

Notice of Allowability

Application No.

10/809,445

Examiner

Hai C. Pham

Applicant(s)

ISHIBE, YOSHIHIRO

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed 03/26/04.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 04/21/04, 08/11/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Reasons For Allowance

The following is an examiner's statement of reasons for allowance: claims 1, 2, 14 and 15 are patentable over the prior art patents and printed publications because of the specific configuration of the multi-beam optical scanning apparatus and the required relationship between the parameters of the various components constituting the optical scanning apparatus, which includes a light source unit having at least three light emitting portions disposed with being spaced from each other in a main-scanning direction, a first optical system for changing conditions of at least three divergent light beams emitted from the light source unit, a stop for restricting widths of the at least three light beams transmitted through the first optical system at least in the main-scanning direction, a deflecting unit for reflecting the at least three light beams transmitted through the stop, a second optical system for forming images of the at least three light beams reflected by the deflecting unit on a surface to be scanned, and a detecting unit for detecting a writing start position synchronous signal for controlling timing of a scanning start position on the surface to be scanned, the detecting unit including a detecting device, a slit member disposed in an optical path between the writing start position synchronous signal detecting device and the deflecting unit, and a third optical system disposed between the slit member and the detecting device, and wherein the required condition is related to the total displacement amount of the image location in the main scanning direction on the photosensitive drum to be maintained equal to or less than one third of the pixel pitch per one inch in the main scanning

direction. This serves to even reduce the displacement of the image location of each of the multiple light beams on the surface to be scanned and is not taught by the prior art of record considered alone or in combination.

Claims 3-13 and 16-22 are allowed because they are directly or indirectly dependent from claims 1-2 and 14-15 above. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Pertinent Prior Art

Ishihara (Pub. No. U.S. 2003/0156183) discloses a multi-beam optical scanning apparatus having a similar structure wherein the defocus jitter or pitch interval error due to the drum oblique-incidence of the plural light beams is minimized. However, Ishihara fails to correlate the defocus jitter amount with the focus displacement of the light beams passing through the slit member.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

May 15, 2006